# RFP No. HSR 14-32 - INITIAL RELEASE - 05/27/2015

# **California High-Speed Rail Authority**



RFP No.: HSR 14-32

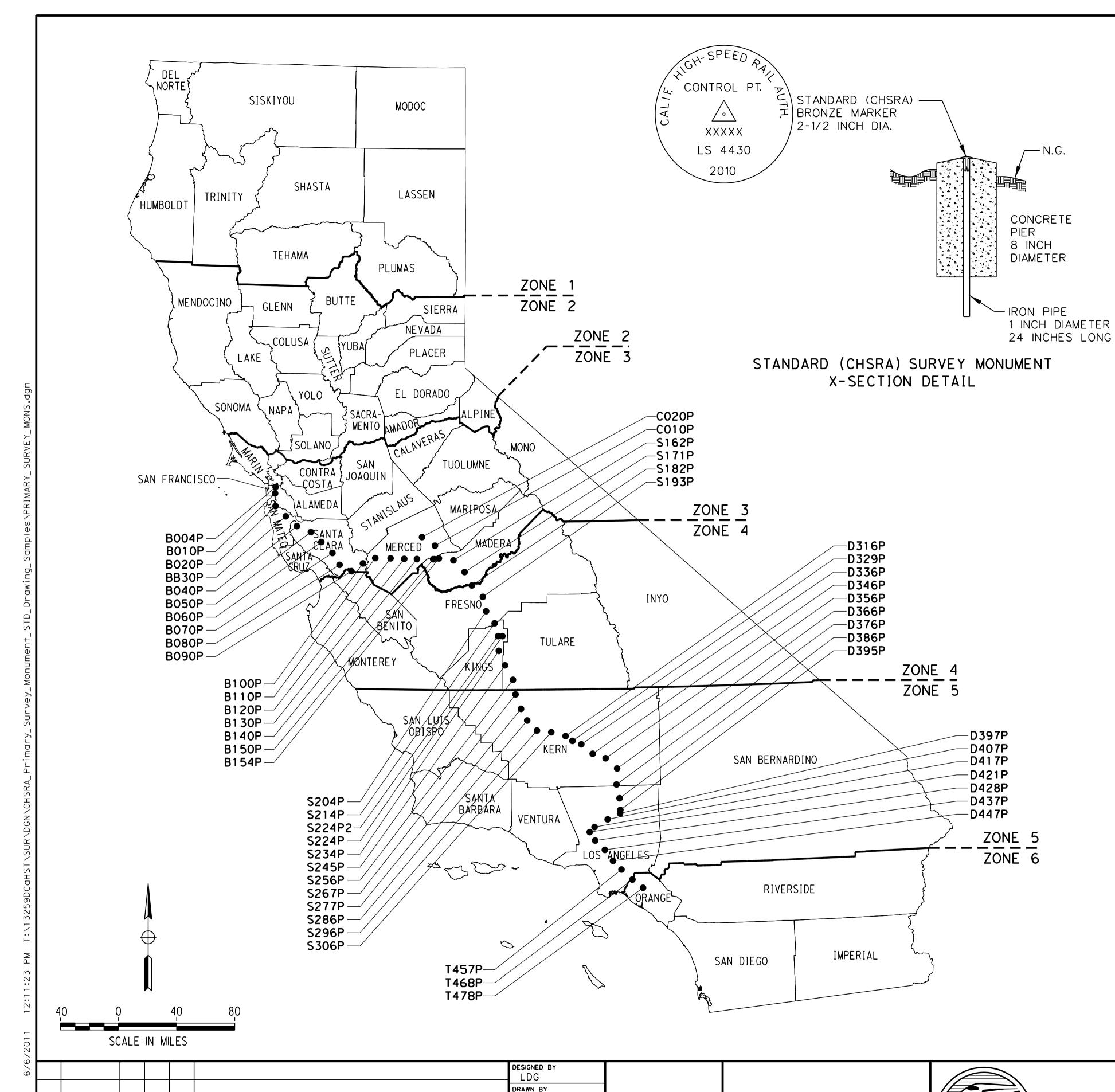
# Request for Proposals for Design-Build Services for Construction Package 4

Book IV, Part G.2
Record of Survey and Control Monument
Data

# **Table of Contents**

SURVEY CONTROL MONUMENTS – SYSTEMWIDE MAP
SURVEY CONTROL MONUMENTS – SYSTEMWIDE DATA TABLES
RECORD OF SURVEY – COUNTY OF KERN
CONSTRUCTION PACKAGE 4 - SURVEY CONTROL MONUMENT DATA AND TIE SHEETS





AP/CH

CHECKED BY

N CHARGE

DESCRIPTION

06/06/11

# SURVEYOR'S NOTES:

- 1. THIS EXHIBIT SHOWS THE PRIMARY SURVEY CONTROL MONUMENTS, BASED ON FIELD SURVEYS, FOR THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).
- 2. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
- 3. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) FOR THE (CSRN) IS THE BASIS FOR ALL MONUMENT POSITIONS, BOTH HORIZONTAL AND VERTICAL.
- 4. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSRS2007).
- 5. THE EPOCH DATE FOR ALL POSITIONS IS 2007.00.
- 6. THE DATUM FOR VERTICAL POSITIONS IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- 7. THE PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
- 8. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE (CSRN).
- 9. ORTHOMETRIC HEIGHTS WERE DETERMINED BY THE USE OF A HIGH RESOLUTION GEOID MODEL GEOIDO9, AS PUBLISHED BY THE NATIONAL GEODETIC SURVEY.
- 10. UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
- 11. FOR MONUMENTS LOCATED ADJACENT TO A (CCS83) STATE PLANE ZONE BOUNDARY LINE, PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
- 12. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME
  OF THE (CHSTP): B-BAY: C-CAPITOL: D-DESERT: S-SIERRA: T-TONGVA: J-SAN JACINTO.
- 13. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE ONE-HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
- 14. EQUIPMENT USED FOR DGPS SURVEYS: TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
- 15. POSITIONAL CONSTRAINTS APPLIED TO THE (CSRN) FOR THE VARIOUS DGPS ADJUSTMENT MODELS NEVER CROSSED MAJOR ACTIVE FAULTS.
- 16. FIELD SURVEYS WERE PERFORMED FROM SEPTEMBER 9, 2010 TO JANUARY 28, 2011.
- 17. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
- 18. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
- 19. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.
- 20. MONUMENT S224P WILL BE DESTROYED BY NEW ROAD IMPROVEMENTS.

  MONUMENT S224P2 HAS BEEN SET NEARBY, OUTSIDE OF PLANNED CONSTRUCTION AREA.

# LEGEND

- ZONE 5 INDICATES BOUNDARY LINES BETWEEN ZONES OF THE CALIFORNIA ZONE 6 COORDINATE SYSTEM OF 1983
  - INDICATES SET STANDARD (CHSRA) MONUMENT
  - XXXXX INDICATES MONUMENT DESIGNATION STAMPED ON BRONZE MARKER

# SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS ACT, AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY (CHSRA) IN SEPTEMBER, 2010.

MALES JOHN AMBIORSKI L. S. 1430

JUNE 06, 2011
DATE



CALIFORNIA HIGH-SPEED TRAIN PROJECT
SURVEY CONTROL MONUMENTS

CONTRACT NO.
13259
DRAWING NO.
SCALE
SHEET NO.

ву снк

# RECORD OF SURVEY No. 3250

PARSONS BRINCKERHOFF

2010 - 2011

IN SECTIONS 1, 21, 24 AND 25, TOWNSHIP 25 SOUTH, RANGE 24 EAST, SECTIONS 7, 18 AND 31, TOWNSHIP 26 SOUTH, RANGE 25 EAST, SECTION 13, TOWNSHIP 27 SOUTH, RANGE 24 EAST, SECTIONS 7 AND 30, TOWNSHIP 27 SOUTH, RANGE 25 EAST, SECTION 4, 10 AND 23, TOWNSHIP 28 SOUTH, RANGE 25 EAST, SECTION 19, TOWNSHIP 29 SOUTH, RANGE 27 EAST, SECTION 34, TOWNSHIP 29 SOUTH, RANGE 28 EAST, SECTION 17, TOWNSHIP 30 SOUTH, RANGE 30 EAST, SECTION 31, TOWNSHIP 30 RANGE 31 EAST, SECTION 7, TOWNSHIP 31 SOUTH RANGE 32 EAST, SECTION 16, TOWNSHIP 32 SOUTH, RANGE 33 EAST, SECTION 35, TOWNSHIP 32 SOUTH, RANGE 34 EAST, ALL MOUNT DIABLO MERIDIAN, AND IN SECTION 4, TOWNSHIP 10 NORTH, RANGE 12 WEST, AND SECTION 33, TOWNSHIP 9 NORTH, RANGE 12 WEST, SAN BERNARDINO MERIDIAN.

# **SURVEYOR'S NOTES:**

- 1. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
- 2. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS.
- 3. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSRS2007).
- 4. THE EPOCH DATE FOR ALL POSITIONS IS 2007.00.
- 5. THE HORIZONTAL PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
- 6. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
- 7. UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
- 8. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, HORIZONTAL PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
- 9. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: D-DESERT: S-SIERRA.
- 10. THE CONTROL CONSISTS OF PRIMARY STATIONS ESTABLISHED AT APPROXIMATE 10-MILE INTERVALS AND SECONDARY STATIONS ESTABLISHED AT APPROXIMATE 2-MILE INTERVALS.
- 11. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE 1—HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
- 12. ALL OTHER SECONDARY SURVEY CONTROL STATIONS UTILITIZED REDUNDANT 30 MINUTE OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
- 13. EQUIPMENT USED FOR DGPS SURVEYS WAS TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
- 14. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET". ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH—SPEED RAIL AUTHORITY.
- 15. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH—SPEED RAIL AUTHORITY.
- 16. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.

# **PURPOSE STATEMENT:**

THIS PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL GEODETIC CONTROL TO SUPPORT THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).

# BASIS OF BEARINGS STATEMENT:

THIS BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD83 (NSRS2007), EPOCH 2007.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATIONS 'P562' AND 'P544' BEARING NORTH 58'54'01.86" WEST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER.

# **SURVEYOR'S STATEMENT:**

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY BETWEEN SEPTEMBER OF 2010 AND DECEMBER OF 2011.

JAMES JOHN IMBIORSKI, L.S. 4430
LICENSE EXPIRES 09/30/13

JAMES JOHN
IMBIORSKI
No. 4430
Exp. 9-30-13

FOR CALIFORNIA

OF CALIFORNIA

LICENSE SAME STATE

April 2, 2012

DATE

DATE

DATE

DATE

DATE

DATE

DATE

# COUNTY SURVEYOR'S STATEMENT:

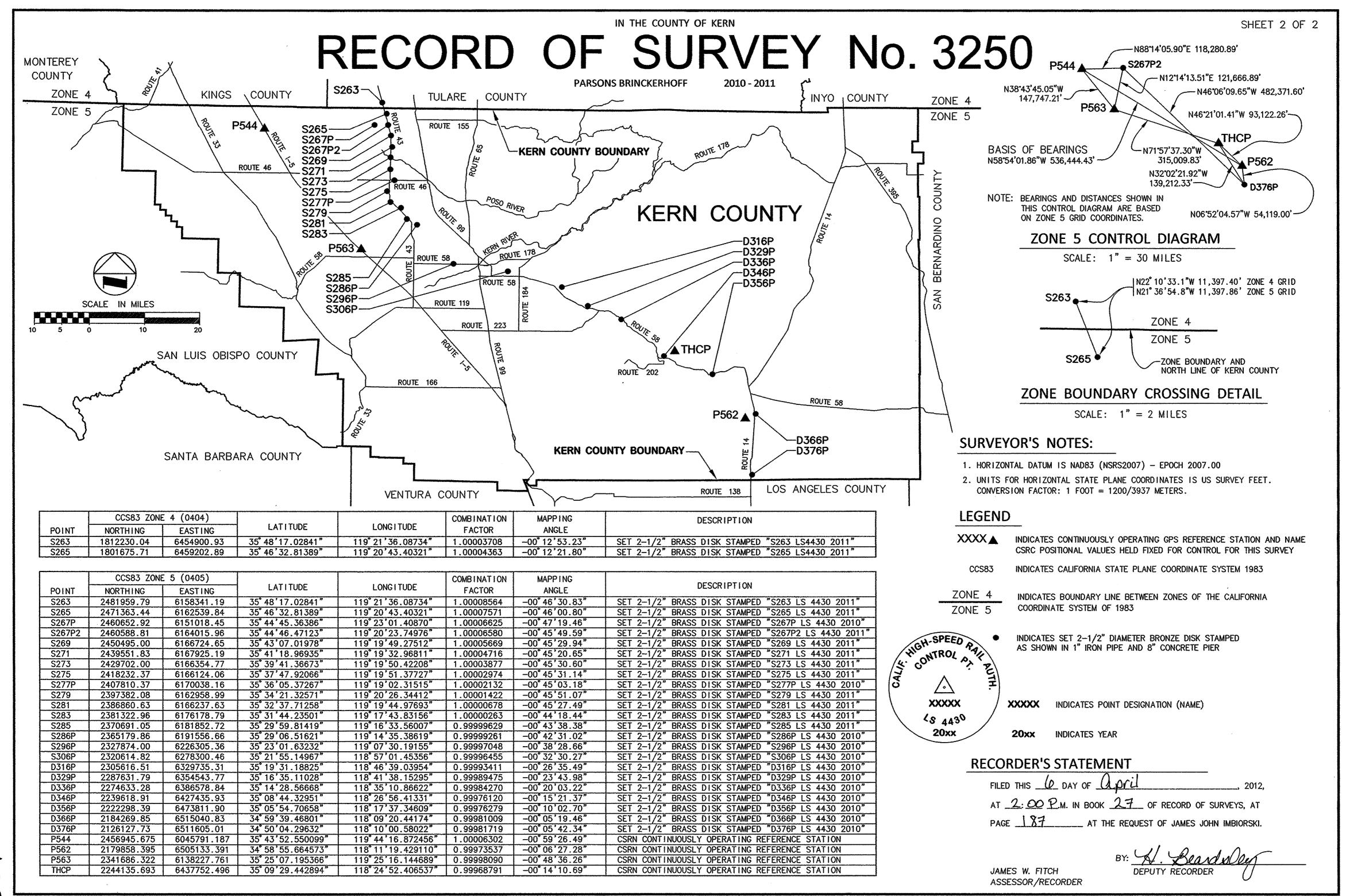
THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFILE PROFESSIONAL LAND SURVEYORS' ACT THIS	ESSIONAL
PROFESSIONAL LAND SURVEYORS' ACT THIS DAY OF	and the state of t
APRIL , 2012	ESGONAL LAND SIL
Donna I Rujihara	DONNA E. FUJIHARA
COUNTY SURVEYOR DATE: 4/4/12	LS 7345 *
IS NO. 7345 EXPIRES . 12-31-13	

RE	COR	DER'S	<b>STAT</b>	<b>EMENT</b>
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FILED THIS 6 DAY OF Opril	2012
AT $2:00$ $2$ M. IN BOOK $27$ OF RECORD OF SURVEYS	, AT
PAGE 1810 AT THE REQUEST OF JAMES JOHN IMBIO	RSKI

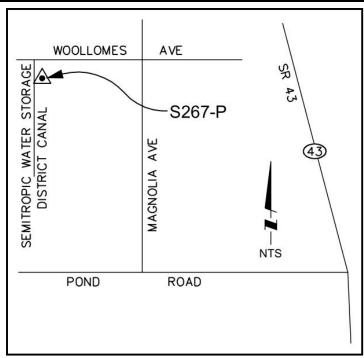
JAMES W. FITCH ASSESSOR/RECORDER





Sheet

of



Designation: S267P

Date: 9/14/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, 1.0 mile west along Woollomes Avenue from the intersection of Magnolia Avenue, North end of the east levee of the Semitropic Water Storage District Canal, Southeast of the chain link fencing of the pressure station, approximately 1.95 miles north of Pond Road.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 44' 45.36386" N **Longitude** : 119° 23' 01.40870" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1790853.29

**Easting**: 6447787.06 **Comb. Factor**: 1.00005116

**Zone 5 Northing** : 2460652.92

**Easting**: 6151018.45 **Comb. Factor:** 1.00006625

# **VERTICAL**

US Survey Feet Method

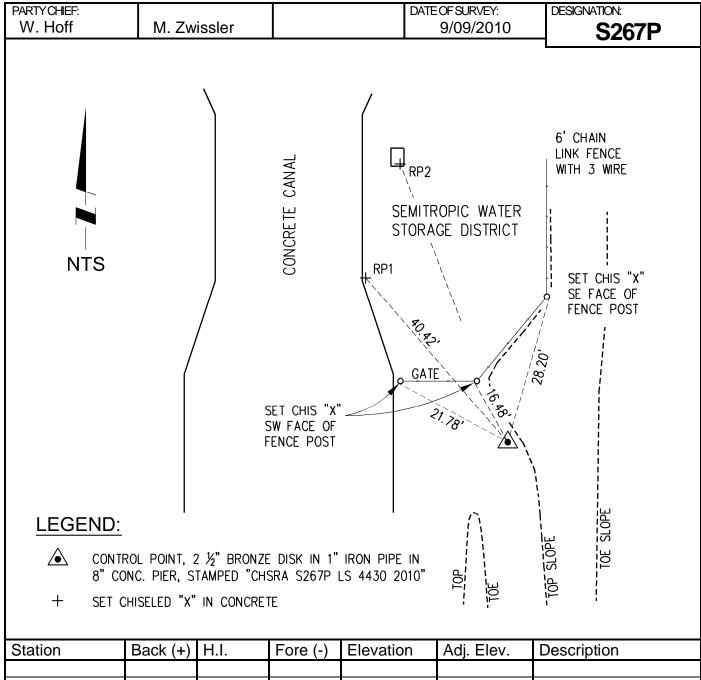
**NAVD88:** 248.21 GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





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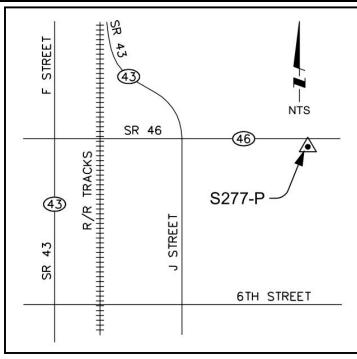
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S267-P			4.75			2-1/2" BRONZE DISK
	4.64					
RP2			5.26			CHIS "X" IN CONC PAD
	4.57					
RP1			4.14			CHIS. "X" IN CONC
	4.94					
S267-P						2-1/2" BRONZE DISK





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of



Designation: S277P

Date: 9/14/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, 0.6 mile east along State Route 46 from the intersection of State Route 43 North, 68 feet south and 74 feet west of Pole #40764818 located on the north side of State Route 46, 11.0 feet south of the south edge of pavement of State Route 46.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 36' 05.37267" N **Longitude** : 119° 19' 02.31515" W

California Coordinate System (CCS83) US Survey Feet

**Zone 5 Northing** : 2407810.37

**Easting**: 6170038.16 **Comb. Factor:** 1.00002132

# **VERTICAL**

NAVD88:

US Survey Feet Method 337.70 GPS

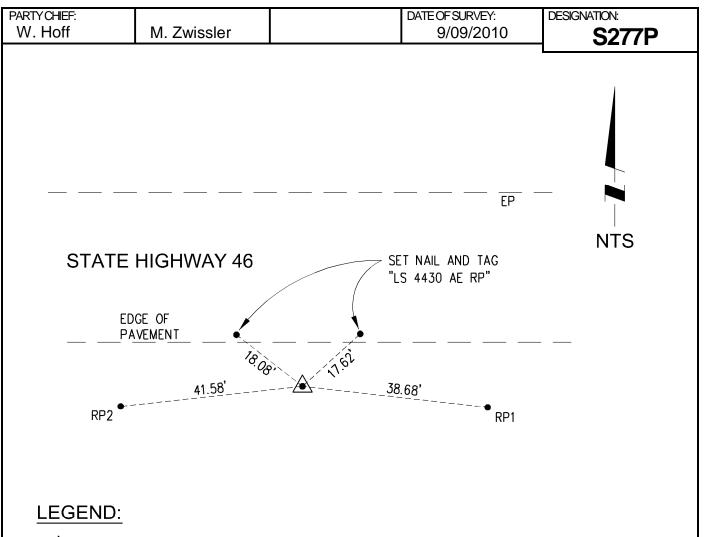
The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





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CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S277P LS 4430 2010"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

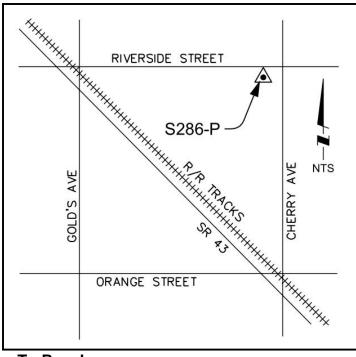
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S277-P			5.40			2-1/2" BRONZE DISK
	6.03					
RP2			5.33			5/8" REBAR LS 4430
	5.05					
RP1			5.72			5/8" REBAR LS 4430
	5.37					
S277-P						2-1/2" BRONZE DISK





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of



Designation: S286P

Date: 9/14/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, 23 feet south of the centerline of Riverside Street, 64 feet west of the centerline of Cherry Avenue, 10.8 feet north of chain link fenced equipment yard.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 29' 06.51621" N **Longitude** : 119° 14' 35.38619" W

California Coordinate System (CCS83) US Survey Feet

**Zone 5 Northing** : 2365179.86

**Easting**: 6191556.66 **Comb. Factor:** 0.99999261

# **VERTICAL**

US Survey Feet Method

**NAVD88:** 350.32 GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





Sheet

of

PARTY CHIEF: W. Hoff	M. Zwissler		DATE OF SURVEY: 9/09/2010	DESIGNATION: S286P
	SET NAIL AND "LS 4430 AE F NW FACE OF P	RP" IN	CHERRY AVENUE	
"LS 4430 RIVERSIDE		RP2	CHE	NTS
<u>EP</u>	RP1 CHAIN LINK F	31.98'	SET CHISELED " IN 36"Ø STANDF	X" PIPE
LEGEND:				

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S286P LS 4430 2010"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

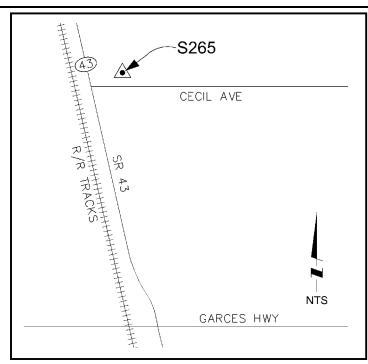
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S286-P			4.79			2-1/2" BRONZE DISK
	4.76					
RP2			5.31			NAIL & TAG LS 4430
	5.09					
RP1			4.85			5/8" REBAR LS 4430
	5.10					
S286-P						2-1/2" BRONZE DISK





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of



Designation: \$265

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and Cecil Avenue, proceed east along Cecil Avenue, 0.25 mile to the monument on the left.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 46' 32.81389" N **Longitude** : 119° 20' 43.40321" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1801675.71

**Easting**: 6459202.89 **Comb. Factor**: 1.00004363

**Zone 5 Northing** : 2471363.44

**Easting**: 6162539.84 **Comb. Factor:** 1.00007571

# **VERTICAL**

NAVD88:

US Survey Feet Method 242.14 Levels/GPS





Sheet

DATE OF SURVEY:

of

DESIGNATION:

J. TERRY	R. WILLIAMS	9/20/2	2011	S265
	29.84 <sup>1</sup>	27.00° RP2	<u>2</u> EP	NTS
CE	ECIL AVE	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	<u> </u>			
SET %"   PLUG "LS	REBAR W/PLASTIC RP4	RP3 RP3	─SET ¾" REBA PLUG "LS 44	AR W/PLASTIC 30 AE RP"
		PP# 419	93174E	
LEC	END:			

# LEGEND:

PARTY CHIEF:

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S265 LS 4430 2011"

• REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

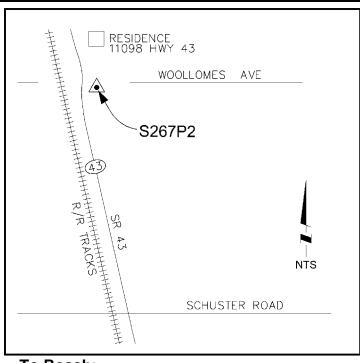
a			- /	I = 1	T	I a la l
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S265			4.74			2-1/2" BRONZE DISK
	5.11					
RP4			4.77			5/8" REBAR LS 4430
	4.62					
RP3			4.86			5/8" REBAR LS 4430
	4.27					
RP2			5.21			NAIL & TAG LS 4430
	5.44					
RP1			5.11			NAIL & TAG LS 4430
	5.25					
S265						2-1/2" BRONZE DISK





Sheet

of



Designation: S267P2

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and Schuster Road, proceed north along Highway 43, 1.0 mile to the monument on the right. Monument is 150 feet south of Street Address 11098 Highway 43.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 44' 46.47123" N **Longitude** : 119° 20' 23.74976" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1790916.30

**Easting**: 6460784.38 **Comb. Factor**: 1.00005054

**Zone 5 Northing** : 2460588.81

**Easting**: 6164015.96 **Comb. Factor:** 1.00006580

#### VERTICAL

US Survey Feet Method

**NAVD88:** 259.06 GPS

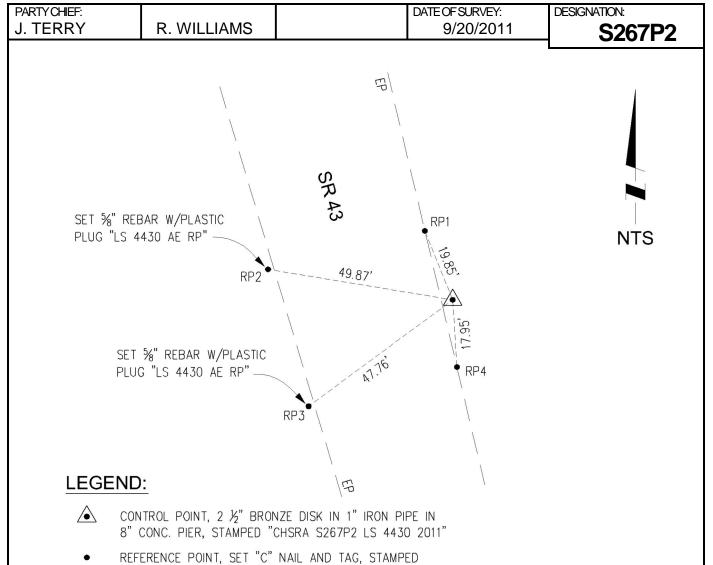
The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





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of



Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S267P2			5.30			2-1/2" BRONZE DISK
	4.43					
RP4			4.16			NAIL & TAG LS 4430
	4.55					
RP3			4.85			5/8" REBAR LS 4430
	5.02					
RP2			4.59			5/8" REBAR LS 4430
	4.06					
RP1			4.39			NAIL & TAG LS 4430
	5.23					



S267P2

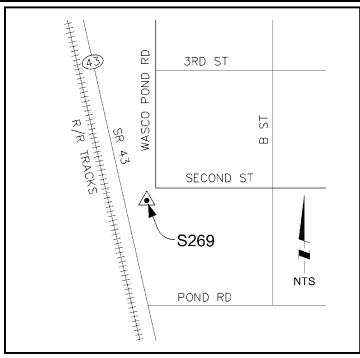


2-1/2" BRONZE DISK

"AE RP LS 4430" UNLESS OTHERWISE NOTED.

Sheet

of



Designation: S269

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and Pond Road, proceed north on Highway 43 for 350 feet to the monument on the right. Monument is at the southwest corner of Second Street and Wasco Pond Road.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 43' 07.01978" N **Longitude** : 119° 19' 49.27512" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1780849.58

**Easting**: 6463591.76 **Comb. Factor**: 1.00005714

**Zone 5 Northing** : 2450495.00

**Easting**: 6166724.65 **Comb. Factor:** 1.00005669

#### **VERTICAL**

US Survey Feet Method

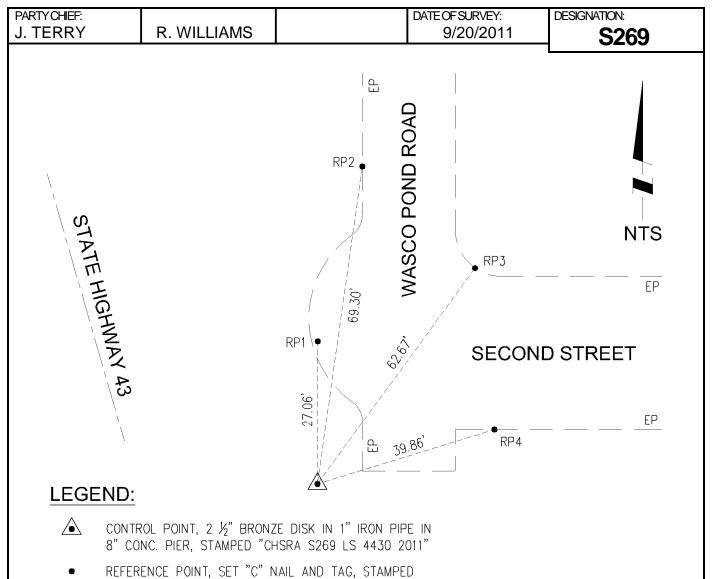
NAVD88: 276.63 Levels/GPS





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of



Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S269			5.79			2-1/2" BRONZE DISK
	5.65					
RP4			5.37			NAIL & TAG LS 4430
	5.69					
RP3			5.97			NAIL & TAG LS 4430
	5.40					
RP2			5.07			NAIL & TAG LS 4430
	5.04					
RP1			5.33			NAIL & TAG LS 4430
	5.75					
\$269						2-1/2" BRONZE DISK

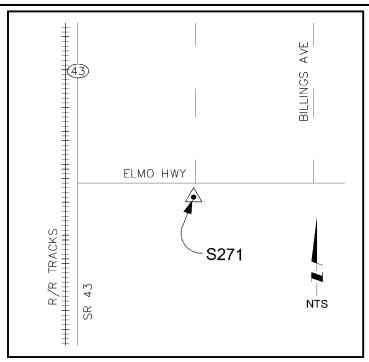




"AE RP LS 4430" UNLESS OTHERWISE NOTED.

Sheet

of



Designation: **\$271** 

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and Elmo Highway, proceed east along Elmo Highway, 0.25 mile to the monument on the right.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 41' 18.96935" N **Longitude** : 119° 19' 32.96811" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1769918.59

**Easting**: 6464899.46 **Comb. Factor**: 1.00006468

**Zone 5 Northing** : 2439551.83

**Easting**: 6167925.19 **Comb. Factor:** 1.00004716

# **VERTICAL**

NAVD88:

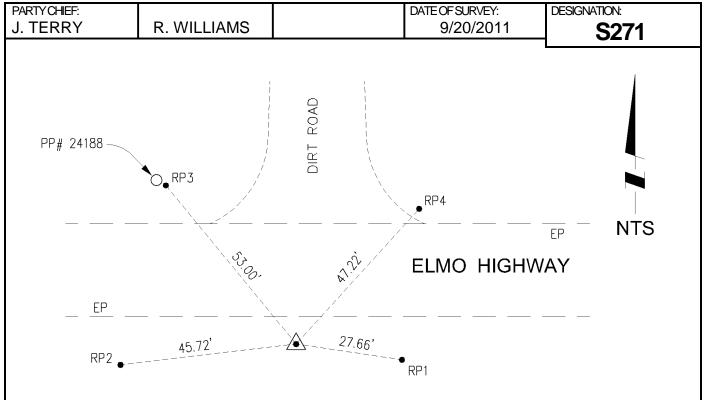
US Survey Feet Method
293.56 Levels/GPS





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of



# LEGEND:

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S271 LS 4430 2011"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

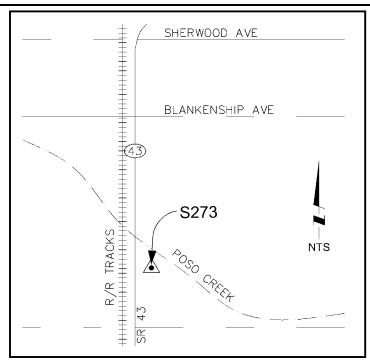
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S271			4.93			2-1/2" BRONZE DISK
	5.40					
RP4			5.08			5/8" REBAR LS 4430
	5.12					
RP3			5.56			5/8" REBAR LS 4430
	6.09					
RP2			5.81			5/8" REBAR LS 4430
	5.58					
RP1			5.91			5/8" REBAR LS 4430
	5.10					
S271						2-1/2" BRONZE DISK





Sheet

of



Designation: \$273

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, along Highway 43 to Poso Creek. Monument is located in the southeast quadrant.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 39' 41.36673" N **Longitude** : 119° 19' 50.42208" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1760053.60

**Easting**: 6463425.57 **Comb. Factor:** 1.00007170

**Zone 5 Northing** : 2429702.00

**Easting**: 6166354.77 **Comb. Factor:** 1.00003877

#### **VERTICAL**

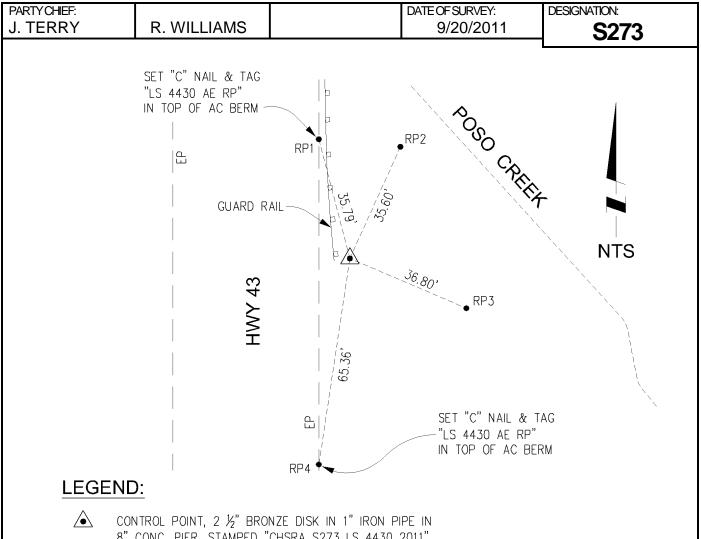
NAVD88:

US Survey Feet Method
309.37 Levels/GPS





Sheet



- 8" CONC. PIER, STAMPED "CHSRA S273 LS 4430 2011"
- REFERENCE POINT, SET %" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

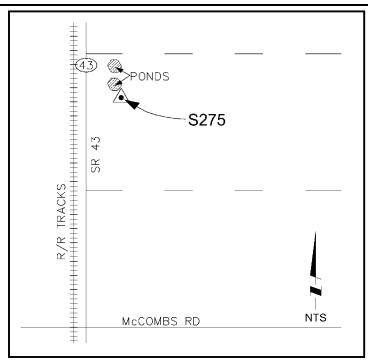
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S273			4.59			2-1/2" BRONZE DISK
	4.64					
RP4			4.32			NAIL & TAG LS 4430
	5.27					
RP3			5.54			5/8" REBAR LS 4430
	4.89					
RP2			4.64			5/8" REBAR LS 4430
	3.70					
RP1			3.93			NAIL & TAG LS 4430
	4.52					
S273						2-1/2" BRONZE DISK





Sheet

of



Designation: \$275

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and McCombs Road, proceed north on Highway 43, 1.0 mile to the monument on the right.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 37' 47.92066" N **Longitude** : 119° 19' 51.37727" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1748581.78

**Easting**: 6463307.21 **Comb. Factor**: 1.00008058

**Zone 5 Northing** : 2418232.37

**Easting**: 6166124.06 **Comb. Factor:** 1.00002974

#### **VERTICAL**

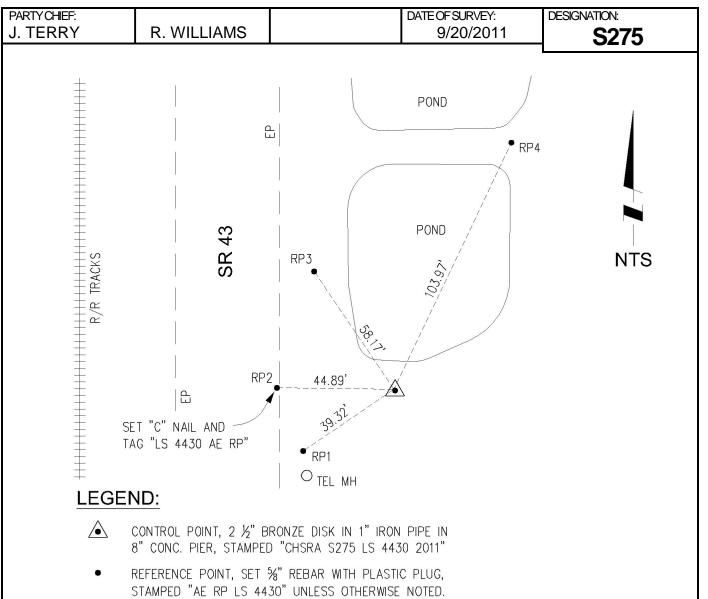
NAVD88:

US Survey Feet Method
318.65 Levels/GPS





Sheet



Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
	Daok (1)	1 1.11.		Licvation	7 taj. Liev.	
S275			3.36			2-1/2" BRONZE DISK
	3.86					
RP4			3.55			5/8" REBAR LS 4430
	5.44					
RP3			5.70			5/8" REBAR LS 4430
	4.74					
RP2			4.29			NAIL & TAG LS 4430
	4.58					
RP1			4.92			5/8" REBAR LS 4430
	3.20					
S275						2-1/2" BRONZE DISK



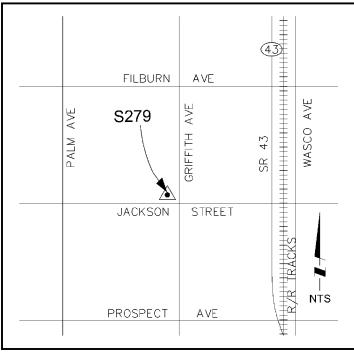


# RFP No. HSR 14-32 - INITIAL RELEASE - 05/27/2015

# SURVEY CONTROL MONUMENT DATA SHEET

Sheet

of



Designation: \$279

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the City of Wasco, County of Kern, from the intersection of Highway 43 and Jackson Street, proceed west on Jackson Street for 0.5 mile to the intersection at Griffith Avenue, the monument in on the northwest corner.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 34' 21.32571" N **Longitude** : 119° 20' 26.34412" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1727700.10

**Easting**: 6460346.27 **Comb. Factor**: 1.00009766

**Zone 5 Northing** : 2397382.08

**Easting**: 6162958.99 **Comb. Factor:** 1.00001422

# **VERTICAL**

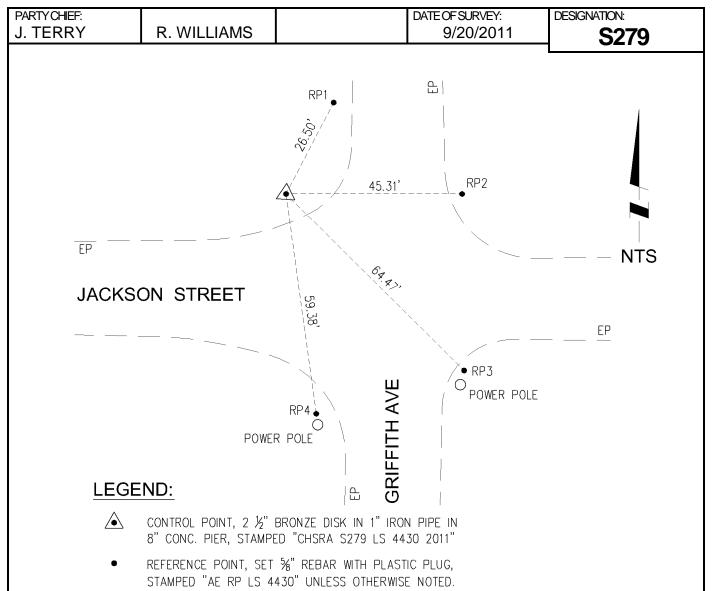
US Survey Feet Method

NAVD88: 332.39 Levels/GPS





Sheet



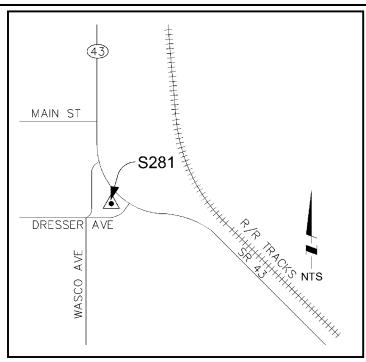
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S279			4.22			2-1/2" BRONZE DISK
	5.00					
RP4			4.65			5/8" REBAR LS 4430
	4.39					
RP3			4.66			5/8" REBAR LS 4430
	5.16					
RP2			4.84			5/8" REBAR LS 4430
	4.60					
RP1			4.86			5/8" REBAR LS 4430
	4.08					
S279						2-1/2" BRONZE DISK





Sheet

of



Designation: S281

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, at the intersection of Highway 43 and Dresser Avenue, monument is on the northwest corner.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 32' 37.71258" N **Longitude** : 119° 19' 44.97693" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1717210.30

**Easting**: 6463728.10 **Comb. Factor**: 1.00010655

**Zone 5 Northing** : 2386860.63

**Easting**: 6166237.63 **Comb. Factor:** 1.00000678

#### **VERTICAL**

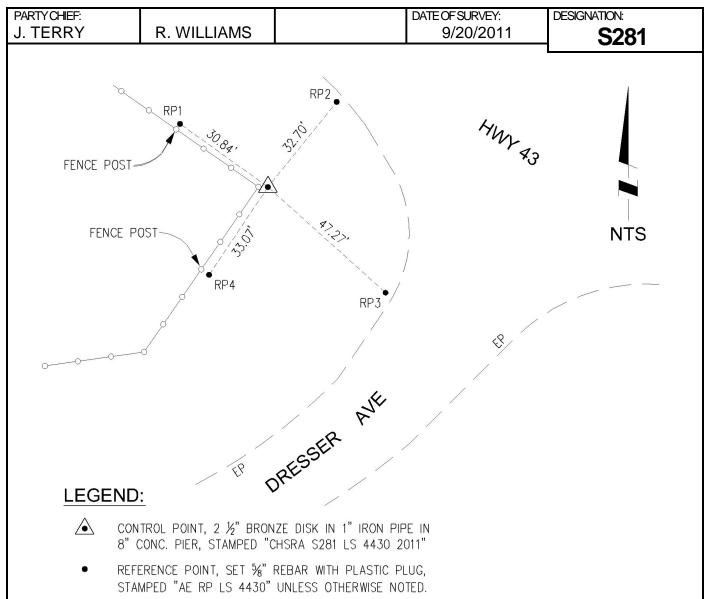
NAVD88:

US Survey Feet Method
339.96 Levels/GPS





Sheet



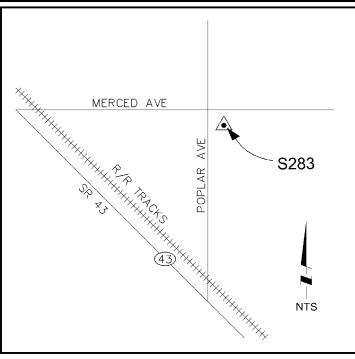
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S281			7.14			2-1/2" BRONZE DISK
	9.15					
RP4			8.79			5/8" REBAR LS 4430
	4.20					
RP3			4.59			5/8" REBAR LS 4430
	5.33					
RP2			4.96			5/8" REBAR LS 4430
	8.41					
RP1			8.68			5/8" REBAR LS 4430
	7.07					
S281						2-1/2" BRONZE DISK





Sheet

of



Designation: \$283

Date: 9/28/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

In the County of Kern, from the intersection of Highway 43 and Poplar Avenue, proceed north along Poplar Avenue to the intersection at Merced Avenue, monument is located on the southeast corner.

# **HORIZONTAL**

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 31' 44.23501" N **Longitude** : 119° 17' 43.83156" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1711769.79

**Easting**: 6473724.12 **Comb. Factor**: 1.00011083

**Zone 5 Northing** : 2381322.96

**Easting**: 6176178.79 **Comb. Factor:** 1.00000263

# **VERTICAL**

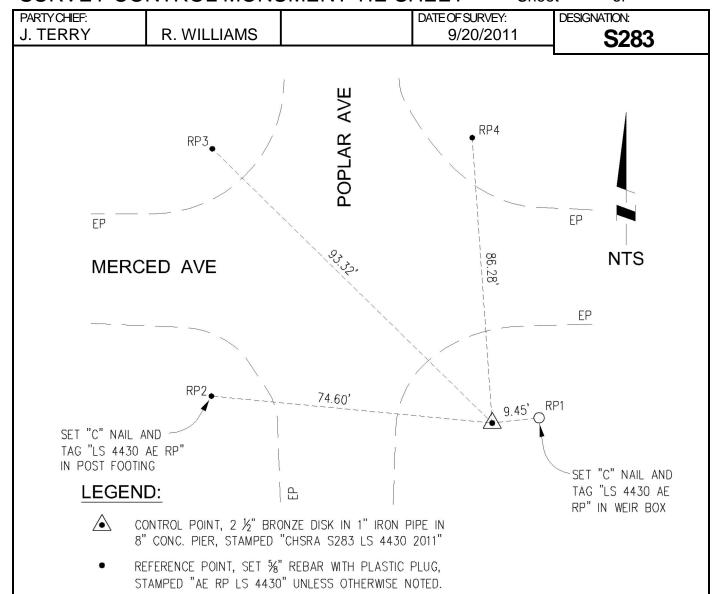
NAVD88:

US Survey Feet Method
352.14 Levels/GPS





Sheet



Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S283			3.95			2-1/2" BRONZE DISK
	4.23					
RP4			4.51			5/8" REBAR LS 4430
	5.56					
RP3			5.27			5/8" REBAR LS 4430
	4.34					
RP2			4.60			NAIL & TAG LS 4430
	3.38					
RP1			3.07			NAIL & TAG LS 4430
	3.89					
S283						2-1/2" BRONZE DISK





Sheet

Designation:

of

**S285** 



2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



#### To Reach:

 $\Gamma$ 

In the City of Shafter, County of Kern, from the intersection of Highway 43 and Lerdo Highway, proceed west along Lerdo Highway, 0.3 mile to the monument on the right. Monument is at the intersection of Pacific Avenue and Lerdo Highway at the northeast corner.

# **HORIZONTAL**

S285

LERDO HWY

Geodetic Coordinates Degrees Minutes Seconds

**Latitude** : 35° 29' 59.81419" N **Longitude** : 119° 16' 33.56007" W

California Coordinate System (CCS83) US Survey Feet

**Zone 4 Northing** : 1701192.85

**Easting**: 6479502.81 **Comb. Factor**: 1.00012095

**Zone 5 Northing** : 2370691.05

**Easting**: 6181852.72 **Comb. Factor:** 0.99999629

#### **VERTICAL**

NAVD88:

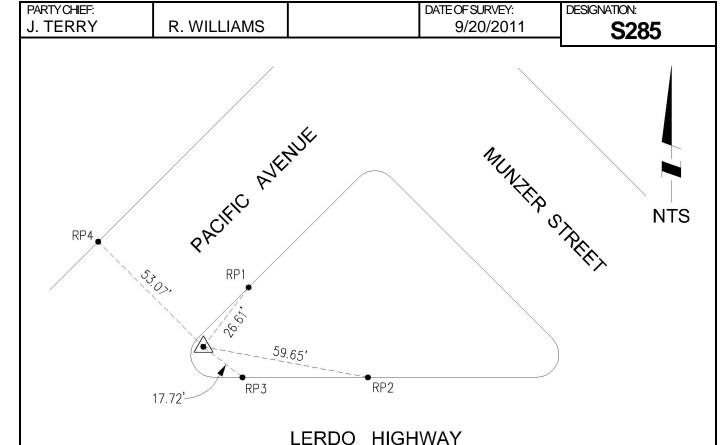
US Survey Feet Method 343.59 Levels/GPS





Sheet

of



# LEGEND:

 $\triangle$ 

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S285 LS 4430 2011"

• REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S285			5.70			2-1/2" BRONZE DISK
	5.84					
RP4			5.62			NAIL & TAG LS 4430
	5.42					
RP3			5.65			NAIL & TAG LS 4430
	5.46					
RP2			5.18			NAIL & TAG LS 4430
	5.38					
RP1			5.64			NAIL & TAG LS 4430
	5.69					
S285						2-1/2" BRONZE DISK



